PROJECT NUMBER: 2307
PROJECT TITLE: Flavor Investigation/Nonvolatile Flavor Investigation/Process Tobacco
PROJECT LEADER: W. R. Raymond
PERIOD COVERED: September, 1988

I. FLAVOR INVESTIGATION

A. Objective: To provide analytical support for activities related to development and application of flavoring materials.

B. Results:

1. Project ART Two samples (0 M/M, 200 M/M) of the residue from the liquid CO_2 were partitioned between hexane and methanol-water (90-10). The G.C. scans of the hydrocarbon fractions (hexane soluble) were identical, and the G.C. scans of the oxygenated components (methanol soluble) showed only minor differences.

Work continues on identification of the oxygenated components of the waxy materials from the liquid CO_2 extracts.
A new HPLC procedure has been developed for the quantitation of underivatized amino acids, (Glutamic acid, Leucine) in casing 149.

GC and GC/MS of an extract obtained from casing 149 showed pyrazine, alkyl pyrazines and methanol alkyl pyrazines. Very little of any high molecular weight material was found in the extract.

2. Low Density Rod - Aftercut Study Anethole was determined on twenty-three samples of low density rod filler. Three samples of aftercut for the low density rod filler were also profiled and anethole quantitated.

3. Half-Pint Casings and Aftercut Analytical work is almost complete on both the aftercut and casings for this POL.

A new HPLC procedure is being developed to analyze a mixture of ethyl esters of citric acid.

4. Miscellaneous GC profiles and GC/MS component identification continued with the analysis of flavor 04-245 (Imitation Jasmin). GC profiles were also run on four Trim flavors in a stability study.

Headspace analyses were run on several samples:

a. five printed PET sheets
b. Rothman Cartier cigarettes
c. Five samples of customer complaints.

II. NONVOLATILE FLAVOR INVESTIGATION

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A. Objective: To investigate tobacco-natural, tobacco-identical and other nonvolatile fractions and constituents for potential application as cigarette flavor additives.

B. Results:

Burley Extract GC and GC/MS profile was run on a Burley fraction D-2 (B. Taylor). Identification of the components included several esters, hydrocarbons, phthalates, iononer and related compounds. Nicotine was found as a minor component in the extract.

III. PROCESSED TOBACCO:

A. Objective: To develop basic and applied knowledge for the purpose of improvement or selective modification of subjective properties of processed tobaccos.

B. Results:

Dry Flavor Replacement Work continues on developing an analytical procedure to monitor SJBR (St. John's Bread, Roasted). Work is also ongoing to obtain a consistent product from different suppliers.

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